CLAIMS

What is claimed is:

1. A method for driving an LCD, wherein the LCD comprises a backlight module, a panel, and a multi-light driving device, the backlight module has a plurality of light-emitting units, and the panel has a plurality of scan lines, the method comprising:

a first brightness adjusting step for adjusting relative brightness between the light-emitting units with the multi-light driving device, wherein a screen of the panel presents a dark zone caused by the brightness distribution of the light-emitting units, and the dark zone includes one of the scan lines, which is being activated; and

a second brightness adjusting step for readjusting the relative brightness of the light-emitting units after a specific scan timing, wherein the dark zone is shifted and includes another one of the scan lines, which is being activated after the specific scan timing.

2. The method of claim 1, wherein:

the brightness of one of the light-emitting units is decreased in the first brightness adjusting step, and the light-emitting unit having decreased brightness causes the dark zone presented in the screen of the panel; and

the brightness of the light-emitting unit having decreased brightness in the first brightness adjusting step is increased in the second brightness adjusting step, and the brightness of another one of the light-emitting units is decreased to shift the dark zone.

3. The method of claim 2, wherein the brightness of the light-emitting unit is

decreased to between 0 and 90% of the original brightness of the light-emitting unit.

4. The method of claim 2, wherein the brightness of the light-emitting unit is decreased to between 0 and 90% of the brightness of another light-emitting unit adjacent to the light-emitting unit having decreased brightness.

5. The method of claim 2, wherein the decreased brightness of the light-emitting unit is larger than 10% of the original brightness of the light-emitting unit.

6. The method of claim 2, wherein the decreased brightness of the light-emitting unit is larger than 10% of the brightness of another light-emitting unit adjacent to the light-emitting unit having decreased brightness.

7. The method of claim 1, wherein the light-emitting unit includes at least one lamp.

8. The method of claim 1, wherein the brightness of the dark zone is at least 10% of the brightness of a region of the panel outside the dark zone.

9. A liquid crystal display (LCD), comprising:

a panel, which comprises a plurality of scan lines;

a displaying system circuit, which electrically connects to and controls the panel, and generates a system timing signal;

a backlight module, which is positioned behind the panel and has a plurality of light-emitting units; and

a multi-light driving device, which electrically connects to the backlight module and generates a plurality of driving signals, wherein the driving signals drive the light-emitting units respectively, the multi-light driving device adjusts

the current levels of the driving signals in sequence according to the system timing signal to change the brightness of the light-emitting units in sequence, and the screen of the panel presents a dark zone caused by the brightness distribution of the light-emitting units and including one of the scan lines, which is being activated.

10. The LCD of claim 9, wherein:

the current level of one of the driving signals is decreased by the multi-light driving device so as to decrease the brightness of the light-emitting unit corresponding to the driving signal having decreased current level; and

after a specific scan timing, the current level of the driving signal having decreased current level is increased again and the current level of next one of the driving signals is decreased by the multi-light driving device so as to decrease the brightness of the light-emitting unit corresponding to the next driving signal having decreased current level, and the dark zone of the screen of the panel is shifted.

11. The LCD of claim 10, wherein the brightness of the light-emitting unit is decreased to between 0 and 90% of the original brightness of the light-emitting unit.

12. The LCD of claim 10, wherein the brightness of the light-emitting unit is decreased to between 0 and 90% of the brightness of another light-emitting unit adjacent to the light-emitting unit having decreased brightness.

13. The LCD of claim 10, wherein the decreased brightness of the light-emitting unit is larger than 10% of the original brightness of the light-emitting unit.

14. The LCD of claim 10, wherein the decreased brightness of the light-emitting unit

is larger than 10% of the brightness of another light-emitting unit adjacent to the light-emitting unit having decreased brightness.

15. The LCD of claim 9, wherein the brightness of the dark zone is at least 10% of the brightness of a region of the panel outside the dark zone.

16. The LCD of claim 9, wherein the light-emitting unit includes at least one lamp.

17. The LCD of claim 9, wherein the multi-light driving device comprises:

a plurality of oscillation step-up circuits, each of which generates an AC signal and electrically connects to each of the light-emitting units of the backlight module; and

a digital control circuit, which connects to each of the oscillation step-up circuits, generates sets of digital switching signals, and respectively transmits the sets of the digital switching signals to the oscillation step-up circuits, wherein a phase and a duty cycle of each set of the digital switching signals are controlled by the digital control circuit, and the current level of the AC signal generated by each of the oscillation step-up circuits is adjusted according to the set of the digital switching signals.

18. The LCD of claim 17, wherein the digital control circuit adjusts the duty cycle of each set of the digital switching signals according to the system timing signal output from the displaying system circuit.

19. The LCD of claim 17, wherein each of the oscillation step-up circuits comprises a switching unit and a resonance step-up unit, the switching unit electrically connects to the digital control circuit and performs switching according to one corresponding set of the digital switching signals output from the digital control circuit, and the resonance step-up unit is controlled by the switching unit.

20. The LCD of claim 19, wherein the resonance step-up unit comprises a transformer and a capacitor.

21. The LCD of claim 20, wherein the switching unit comprises two transistors, the transistors electrically connect to the two ends of the capacitor, respectively, and the transistors are turned on/off according to the corresponding set of the digital switching signals.

22. The LCD of claim 17, wherein the digital control circuit comprises:

a digital switching signal generating circuit, which electrically connects to each of the oscillation step-up circuits, and generates the sets of the digital switching signals respectively input to the oscillation step-up circuits; and

a multiplex feedback-control calculating circuit, which controls the digital switching signal generating circuit, and controls the duty cycles of the sets of the digital switching signals generated by the digital switching signal generating circuit according to feedback signals from the light-emitting units.

23. The LCD of claim 22, wherein the feedback signals are current signals or voltage signals.

24. A multi-light driving device for driving a plurality of light-emitting units and controlling the brightness of the light-emitting units, comprising:

a plurality of oscillation step-up circuits, each of which generates an AC signal for driving each of the light-emitting units and controlling the brightness of each of the light-emitting units; and

a digital control circuit, which connects to each of the oscillation step-up circuits, generates sets of digital switching signals, and respectively transmits the sets

of the digital switching signals to the oscillation step-up circuits, wherein a phase and a duty cycle of each set of the digital switching signals are controlled by the digital control circuit, and the current level of the AC signal generated by each of the oscillation step-up circuits is adjusted according to the set of the digital switching signals.

25. The multi-light driving device of claim 24, wherein the digital control circuit adjusts the duty cycle of each set of the digital switching signals according to an external system timing signal output from a displaying system circuit.

26. The multi-light driving device of claim 24, wherein each of the oscillation step-up circuit comprises a switching unit and a resonance step-up unit, the switching unit electrically connects to the digital control circuit and performs switching according to one corresponding set of the digital switching signals output from the digital control circuit, and the resonance step-up unit is controlled by the switching unit.

27. The multi-light driving device of claim 26, wherein the resonance step-up unit comprises a transformer and a capacitor.

28. The multi-light driving device of claim 27, wherein the switching unit comprises two transistors, the transistors electrically connect to the two ends of the capacitor, respectively, and the transistors are turned on/off according to the corresponding set of the digital switching signals.

29. The multi-light driving device of claim 24, wherein the digital control circuit comprises:

a digital switching signal generating circuit, which electrically connects to each of the oscillation step-up circuits, and generates the sets of the digital switching

signals respectively input to the oscillation step-up circuits; and

a multiplex feedback-control calculating circuit, which controls the digital switching signal generating circuit, and controls the duty cycles of the sets of the digital switching signals generated by the digital switching signal generating circuit according to feedback signals from the light-emitting units.

30. The multi-light driving device of claim 29, wherein the feedback signals are current signals or voltage signals.